

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

JANUARY 15, 1936



Evonymus Radicans Vegetus

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**Growing Better Evergreens
More Ground Cover Plants
Convention Reports**

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor

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POINTS THE WAY AHEAD.

The middle generation of the present day has had an unparalleled business schooling in the depression years through which they have gone. Youngsters without much previous business experience may not realize what it all has been about. Our elders, unfortunately, may not have the time to gain from the knowledge they have so painfully earned. But those in between, with the ability to learn by the mistakes of the past and the opportunity to profit by that learning in the years ahead, are in an enviable position.

The course that lies open ahead of them was described, and in language so clear that everyone will find it worth reading, by J. Frank Jones, of the Mount Hope Nurseries, Lawrence, Kan., in his address as president before the Western Association of Nurserymen last week. His lengthy address was well studied and well composed, and while much of it related only to association aspects, the following portion of the message is for nurserymen everywhere:

"There can be no denial that these past few years have been morale-testing ones for the nurseryman. We can, with cause, ask ourselves what they brought or took which we might at this time enter on the credit side of the ledger. If, as we are told, experience is the best of all teachers, holding first rank for both severity and efficiency, may there not be considerable profit coming to us out of these past few years of schooling? Not so, perhaps, if we played hooky, were stubbornly inattentive and entirely

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too lazy to study the lessons assigned us.

"It is to be admitted that we, the nurserymen of this middle west, with our trade brethren of other parts, have worked blindly and erred grossly at times, but we are by no means conspicuous because of the fact. Business and industry in general have much of the same sort of thing for which to make excuses. Furthermore, there is little need of setting up a 'brain trust' of Columbia, Harvard or Princeton professors to figure out our mistakes, or to delineate remedial measures either. They were as varied as they were individual, and with plenty of duplications, I am sure. Yours may carry the marks of unwise production policies, a failure to study costs or to get a price sufficient to cover same, or as complete a disregard of credit data as you will of last year's calendar. Mine may reflect the stupidity of having allowed salesmen to set up their own terms of contract, of having taken undue chances on some of unsavory reputation, or, with an ambition for increased volume, accepted and filled orders which should have gone into the wastebasket. If in the light of our experiences there is need for us to point out, one to the other, the nature and measure of our respective mistakes, might we not do well to close up shop, throw the key over our shoulder and sign up for a course or two under Professors Tugwell and Wallace of the New Deal College?

"If, as seems to have been taught there, the way to feed the hungry and clothe the naked is to create scarcity through restricted plantings and the destruction of foodstuffs and raw materials, it might be well for us to hold down our production to the point where the farmer needing twenty-five, fifty or 100 trees will be forced to limit himself to the planting of a half-dozen to a dozen perhaps. Is it likely that business of 'the good old days' will return to us through such channels?

"Regulation and control of production are, or can be made, sound, I grant you. It is a major problem, one to which serious thought and intelligent study must be given. I have not yet lost hope of seeing the day when sincere and constructive effort will be

expended along such lines. There are depth and complication to the problem, to be sure, but limited as we are in numbers, might there not be ways of doing for ourselves something akin to what the government is
(Concluded on page 6.)

EVONYMUS RADICANS VEGETUS.

When the bigleaf wintercreeper, as *Evonymus radicans vegetus* is sometimes called, is planted as a specimen in the open, it takes on the sprawling bush form shown in the cover illustration. The maximum height under these conditions is usually five to six feet. Plants can be trained also into an excellent formal hedge two and a half to three feet high. The wintercreeper is valuable as a ground cover among conifers, too. The fact that the plant sometimes carries bright red berries in winter accounts for another common name, evergreen bittersweet.

But its best use is as a climber. Frequently referred to in horticultural literature and nurserymen's catalogues as the hardiest evergreen vine, *E. vegetus* has upheld this claim in the latitude of Chicago, where it thrives in both northern and southern exposures. However, plants climbing on the north side of houses are of a livelier green in winter than specimens on walls facing south.

Although this *evonymus* is sometimes somewhat slow in getting started, established plants climb upward fully fifteen to twenty feet, readily reaching the eaves of a two-story home. *E. vegetus* clings perfectly to brick or stone, but does not hold well to stucco.

As to winter protection, plants growing on the north and east sides of buildings apparently need none, but it is advisable to mulch the base of plants with a southern exposure. Late in the fall pile leaves around the foot of the vine and, with the arrival of snow, heap this over the leaves.

Propagation is best effected by cuttings taken in late summer and placed in shaded frames. A further discussion of this plant will be found in L. C. Chadwick's article in the July 15 issue of *The American Nurseryman*.

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JANUARY 15, 1936

No. 2

Growing Better Evergreens

*Results of Practical Experiences and Experiments Told by
C. A. Chandler Before Western Association of Nurserymen*

The propagation of evergreens is done principally in three ways—from seeds, from cuttings and by grafting. Many varieties come comparatively true from seeds, such as spruces, pines and the common junipers, but many of the finer varieties do not. Many sports have come from the junipers in the chinensis, virginiana and scopulorum types and produced many valuable varieties. These cannot be reproduced from seeds and must be grafted or in some cases propagated by cuttings. I prefer grafting, as cuttings produce weaker plants.

In grafting, scions should be worked on a family understock; that is, arborvitae or arbor-vitae and juniper on juniper. Before we were doing our own grafting, I bought some glauca, Cannartii and scopulorum that had been worked on arbor-vitae, and we had a big disappointment in results. About half of them died the first year, and what remained, I suppose, got on their own roots by throwing roots above the graft, but the growth was uneven and unsatisfactory.

Grafts for Junipers.

Some varieties of junipers that root readily from cuttings, such as Sabina, may be worked on arbor-vitae, and the grafts planted deep. In this way the arbor-vitae serves only as a temporary understock, and the junipers soon make their own roots. This is the same as lilac on privet or ash. Never work the upright juniper on arbor-vitae. You may say, "Why graft a Sabina when it roots so easily from cuttings?" As I said before, the grafted stock makes much stronger plants,

with a great saving of time. Also we have had little blight in Sabina propagated this way.

The time for sowing the seeds for understock is in the fall, or if seeds cannot be had before the ground freezes, they can be stratified in a cool greenhouse.

Juniper seeds often will not germinate the first year. There is a hull, or covering, which must be removed before sowing. We run the seeds through a meat grinder, setting the grinder so as not to injure the kernel.

These seeds, after being sown in the fall, should come up the next spring, and the plants must have good care. They must have the proper amount of shade and cultivation, be sprayed for blight and the following spring be transplanted in coldframes. By fall, about the last of October, they are ready to be lifted and potted in 2½-inch rose pots and placed on a greenhouse bench with a temperature of 45 to 50 degrees at night. By the last of December they are root-bound and ready for grafting. The grafts are made during the winter and placed on a boxed-up greenhouse bench in peat, covered with sash and allowed to remain about thirty days while calusing, then taken out and the seedling part cut off and placed on a bench until spring, when they are ready to be lined out in the field. Then come cultivating and care, always keeping a dust mulch in dry weather; staking, shearing, spacing and insect control.

The two greatest enemies of evergreens are the bagworm and red spider. Bagworms are easily controlled by picking in winter or by

spraying, just after they hatch, with lead or calcium arsenate. The red spiders are controlled by dusting with dusting sulphur or by spraying with a wettable sulphur.

After we have done all this for from four to seven or more years, the evergreens begin to approach a time when we can think of getting some returns from their sale, provided a depression doesn't come along and find the nurserymen without any organization to control prices. We are apt to forget what it has cost to grow an evergreen and so take what the other fellow happens to offer. This has been done in the last three years, but both deciduous stock and evergreens are becoming scarcer, and prices are getting better.

Finer Varieties.

Juniperus scopulorum varies more in type than any other species. It does not pay to grow seedlings of this into trees for market. It takes as much space and time, and costs as much, to grow a seedling as it does the finer grafted trees, and the final value is less than half. A large percentage of the seedlings will be open and unsalable and the color will vary.

The cost of a transplant seedling scopulorum is 5 cents, and the cost of a graft is 20 or 25 cents more. Now compare the final value of each planting, say at the age of 3 years, and the older they become the more the value is in favor of grafted trees.

We have, growing in our nursery, many of the finer varieties. Some of these have originated in our nursery, and others have been collected from other nurserymen. Most of the sco-

pulorum have a stocky center leader and do not need staking.

The D. Hill Nursery Co., Dundee, Ill., has developed several types of scopulorum that are valuable. Marshall's Nurseries, Arlington, Neb., also have several valuable types. R. G. Sutherland, of Boulder, Colo., sent us, several years ago, a green compact type that we think a good one. We also have several types that we have originated or collected from other nurseries. Perhaps I should say perpetuate, rather than originate, because we have done nothing to originate these. Like Topsy, they just grew. We keep our eyes open, and when we find an improvement we try to collect and propagate it.

Our *Juniperus scopulorum* Chandler Silver is one of the best. Also, we have a green compact type and a very pyramidal compact type and several others that look good. Among the virginiana types we have a Blue No. 1 that holds its color in the winter, also one from E. F. Nevins, Blue Rapids, Kan., that is good. We call it Nevins Blue. Some call this one Blue Rapids, but I have no objection to giving credit where credit belongs.

Last fall our foreman found a sport, a bud variation growing out of the side of a *Juniperus virginiana* glauca, which is the most distinct sport I have ever seen. This sport is of better color than the parent and more bushy and compact. I think it will be a spreading glauca. We are grafting this bud this winter and will watch it for several years, and may apply for a patent.

These better types seem to occur in every nursery, and if you keep your eyes open and save these better types, you can help improve evergreens.

NOTE UNUSUAL DISEASES.

During the past season a number of new or unusual diseases affecting ornamental plants have been observed in New Jersey, as well as rather severe outbreaks of some of the more common troubles, reports the state experiment station.

The year 1935 witnessed the most severe and general outbreak of anthracnose of *Platanus occidentalis*, a leaf and twig disease, recorded in a number of years. It was general over the entire state of New Jersey on the native plane, and even the inner foliage of many oriental planes was heavily infected. In an ordinary year the oriental plane is hardly

touched, although the native always shows more or less infection.

Complete defoliation was caused on a great majority of the native planes by the last of June. The second crop of leaves was not severely infected, but numerous twig cankers were produced, below which suckering took place, giving rise to irregular, bunchy or witches'-broom growths. Many twig cankers 3 to 4 years old were observed to be callusing over and healing normally as any other injury. The fungus had evidently been killed out in such cankers.

A twig blight of 2, 3 and 5-needled pines has been on the increase in New Jersey for several years. It shows up early in the spring and continues during the summer. New growth of the terminal bud may be completely prevented, or varying amounts of growth may take place. The color of the needles of infected twigs is a light brown, and at their bases, beneath the sheath, numerous small, black points, the pycnidia, or fruiting structures, occur. Twigs may die back for as much as six inches, and generally there is a slight exudation of resin. Infection is considered to take place early in the spring as new growth starts. Associated with these symptoms is the fungus, *Sphaeropsis ellisii*.

Canker of boxwood, caused by the fungus, *Volutella buxi*, is continuing to be a severe disease on winter-injured boxwood. Able to cause severe damage on normal *Buxus suffruticosa*, the fungus rapidly destroys specimen plants weakened by the effects of severe winter temperatures. Many large specimens which escaped severe injury in the winters of 1933-34 and 1934-35 have died during the past season as a result of fungous attack. Plants in good growing environment, however, even though injured by both winters, recovered during the summer. It was noticeable that branches infected with this fungus were the first to be injured and showed more severe injury than healthy branches.

Dying of chestnut oak is correlated with drought, cankerworm defoliation and the presence of the fungus, *Diplodia longispora*. Due to the weakening effects of the first two factors, the third factor has assumed the importance of a first-rate parasite, becoming systemic and causing the death of large branches and sub-

sequently entire trees. Normally this disease is known only as a twig blight of chestnut oak.

CERATOSTIGMA AND ROSES.

In many parts of the United States, but more particularly in the middle west, even the most carefully tended rose gardens become somewhat of a problem by the beginning of August. The obvious solution of the problem would seem to be an interplanting of other plant material. Though often attempted, this is not so easy as it sounds.

For the past two seasons the Missouri Botanical Garden has successfully met the problem of the rose garden by planting a clipped hedge of germander, *Teucrium Chamædrys*, around the central bed. Its thrifty, blue green foliage has defied the hot weather and has given an illusion of freshness and abundance to the whole garden. Between the roses in the central bed and at other points in the rose garden has been interplanted the old, reliable summer perennial, *Ceratostigma plumbaginoides*, or *Plumbago Larpentæ*, as it is listed in many nursery catalogues. Its gentian-blue flowers have provided a lovely foil for such roses as were in flower and have combined attractively with the low *teucrium* hedge. It has been useful as well as beautiful, since it shades the soil between the roses and serves as a summer mulch. As grown at the garden, the *ceratostigma* does not flower until well into July, so that the garden during the rose season seems quite unchanged. As the roses begin to go, the green foliage of the *ceratostigma* becomes more and more conspicuous, and from August 1 until frost the soft deep blue of its flowers is the dominant note in the rose garden.

The management of *ceratostigma* in the rose garden is a little more intricate than one might think who knew the plant only as a member of the perennial border. Unfortunately, when left to itself it forms a thick mat which eventually dies out in spots and which prevents hilling up around the roses in the late fall. At the garden the *ceratostigma* is taken up and carried over the winter in coldframes, the plants being divided and reset the following April. Thus the roses can be cared for during the winter precisely as they were before. The *ceratostigma* thrives on this treatment.

More Ground Cover Plants

*Better Varieties and Their Usefulness in Various Locations
Described by C. W. Wood from His Trials of Plants*

Continuing the line of discussion started in the last issue, let us examine at this time a few more plants suited to the role of ground covers.

Linarias.

Linaria is a large genus of more than 100 species, containing many more good ground covers than there is space to mention. Two or three of the better ones that are available in this country should, however, be mentioned. That little midget, *L. aquitriloba*, is one of the best ground covers I have ever seen, and it is hard to understand why it has not made more friends among American gardeners. Its small, round, evergreen leaves cling closely to the ground, producing an attractive green carpet, further ornamented by small, pale purple flowers during most of the summer. The entire plant, flowers and all, is not one-half inch high, though it spreads into broad mats when it has a warm, sunny situation that is not too dry. Being from southern Europe, it is not hardy in latitude 44, but we can keep it in a wall where the drainage is sharp enough to keep ice from freezing over the plant. It should be entirely hardy south of the latitude of Chicago and should be a good item for the neighborhood grower of rock garden plants. It is easily multiplied by division.

Other *linarias* of the same spreading habit, low stature and long blooming period are *L. hepaticifolia*, lilac-colored flowers; *L. pallida*, lilac with yellow lip, and *L. pilosa*, violet. They are of about equal hardiness.

Lippia.

Lippia canescens, being tender to freezing, is of no use to us of the north, but is mentioned for the benefit of southern readers. Where this Chilean plant can be grown, there is probably no more important ground cover, especially in situations where nothing else will grow. It is an extremely rapid spreader and should not be put within feet of other small plants, for it will smother everything in its path. It is not hard to eradi-

cate, however, having no underground stems like many spreading plants.

Malvastrum.

The genus *malvastrum*, of seventy or more species, mostly of the tropics or subtropics, has given us one hardy plant of great beauty and usefulness. This, *M. coccineum*, of western United States and Canada, is a highly stoloniferous plant, sending its running rootstocks far and wide, clothing the soil with its hoary, gray, 3 to 5-parted leaves and carrying an immense number of malva-like flowers, from salmon pink through shades of red to bright scarlet in color, over a long period in early summer. This is an outstanding ground cover for dry, sunny spots, which are often hard to clothe. It is probably best propagated from seeds when they are available, but that method usually produces a rather wide range of shades. And seeds are not always easy to get. The plant has been in my garden for a number of years and has never set a seed yet, so far as I have been able to discover. Vegetative reproduction is not rapid, notwithstanding the stoloniferous nature of the plant, but it may be accomplished by division.

Mazus.

We of the extreme north are also denied the genus *mazus*, herbs from southern Asia, Australia and New Zealand, a close relative of our own monkey flowers (*mimulus*). All that I have grown are dwarf creepers, carpeting the moist soil with pleasing green and bearing over a long period their flowers, generally of some shade of blue with a contrasting whitish throat or lip. The plants may be endlessly multiplied by division.

Mitchella.

Everything considered, our native partridge berry, *Mitchella repens*, is probably at the head of the list of the ground cover plants. It has about every good point, such as hardiness, beauty, ease of culture and adaptability, that the perfect plant is supposed to possess. First, as to hardiness, it grows naturally as far north as Can-

ada and so should be able to stand everything the northern states have to offer in the way of cold. It also grows as far south as Mexico and so should offer no hard problems for southern growers, as is the case with many northern plants. It is not necessary to say much about the beauty of the plant, because most plant growers have seen it in its wild state. It is just as beautiful, or even more so, in the garden and is not hard to maintain there, contrary to the opinions so often expressed. The culture of the partridge berry is simplicity itself. It occurs in nature in both acid and alkaline soil and adapts itself to both mediums in the garden, though, if collected plants are to be used, they should be taken from soil similar to that of the garden they are to adorn. The partridge berry also grows naturally in shade and full sun and in both dry and moist soil. What more could one expect of a plant? Propagation may be from seeds or, preferably, from cuttings, which root readily in a close frame.

Phlox.

For ease of culture and spectacular beauty over a relatively short period, some of the creeping phloxes (*P. subulata*, for instance) hold first place in a list of this kind. There are so many of them, however, and their cultural requirements are so varied that the entire lot will be left for consideration at a later date.

Saponaria.

The ubiquitous *Saponaria ocymoides* is a good ground cover, but has been so overdone that it is beginning to pall. There is, of course, still a big demand for it and probably will be so long as gardens are planted. We are making a mistake, however, by confining our attention to this one species when there are so many others of even greater merit. Of the latter, *S. caespitosa* is probably the most readily available and also among the best. It does not roam like its more popular relative, but instead makes little tufts of gray green, with rose-pink flowers on 4-inch stems for two months, in May and June. It re-

quires sunshine and a soil of little fertility, doing best in northern Michigan in the scree, which is made up of gravel with a little finely pulverized leaf mold.

S. lutea, another of these small, restrained soapworts, would not appeal to many by its description alone, for the words, "pale yellow," would normally indicate something rather insipid. Actually, though, the plant, with its yellow heads of flowers with violet stamens, is quite inspiring. In the meager soil of the scree, where it should be grown, it grows two or three inches high and blooms during June in this section.

It is hard to go farther in this interesting family and be sure that one is on safe ground in one's nomenclature, for there is much confusion. There is one little mat-maker in this lot which I suspect is the true *S. pulvinaris*, though it travels under a number of names, including *S. Pumilio* and *S. libanotica*. It makes a low mat of small, linear leaves and bears a profusion of rose-pink, approaching rose-red, flowers in late June or July, the flowering season lasting about a month. This is a beautiful little ground cover for a scree soil and should be a good item for all plant growers. I wonder if there is such a thing as *S. Pumilio*? The *Cyclopedia of Horticulture* gives it as a synonym of *S. pulvinaris*, while plants grown from European seeds under label of *Saponaria Pumilio* have in my own case, at least, turned out to be *Silene Pumilio*, which in turn is synonymous with *Saponaria nana*. It is a frightful tangle, that needs study by an experienced botanist. The plant that I have in mind is scarcely one for a ground cover, anyway, making tiny hummocks of foliage on which sit almost stemless, notched, rose-pink flowers resembling small carnations, as one observer notes. It is not easy to grow, requiring, it appears, a soil that contains not a hint of lime.

All soapworts that I have tried are easy from seeds, though the hybrids, such as *S. læta* and *S. Boissieri*, cannot be expected to come true that way. They may also be multiplied by division or cuttings. Cuttings of the trailers root readily after the flowering season, and the tufted kinds are probably best at that period, too, though they also are handled fairly easily just as they are coming into growth in spring.

There are, of course, many mat-making stonecrops that are ideal ground covers for unconsidered situations in the garden. Many of them have been mentioned in this column recently, however, and so need no attention at this time. They should not be overlooked, though, when one is making a list of ground cover plants.

There is room for just one more paragraph and that will be devoted to a ground cover for our southern friends. That will leave, to be sure, a number of genera, but they will have to wait for another time. The plant I have in mind now is *Selliera radicans*, a creeper from New Zealand, Australia and South America, that makes a lovely ground cover for a bog or other wet spot, with small, white or white and blue flowers, according to some. (My one lot of plants never bloomed, the first winter being their last.) It is a rapid grower, sending out long runners and making a solid mat about two inches thick. It is a pleasing plant, that has never been listed in this country so far as I know and should make a good seller in the warmer sections. Propagation is from seeds, divisions or cuttings.

BOYSENBERRY.

The boysenberry, now coming into commercial prominence, was developed in California several years ago by Rudolph Boysen, superintendent of parks at Anaheim. He was experimenting in crossing a number of different varieties, and he thinks this is a cross between loganberry, blackberry and Cuthbert raspberry. As it was the crossing that interested him most, and not the introduction of new varieties, the boysenberry was grown in his yard for several years before being discovered by commercial berry growers, to whose attention it was called by George Darrow, of the United States Department of Agriculture.

On account of the larger size, greater production and finer flavor, some commercial berry growers expect the boysenberry gradually to replace the youngberry, just as the later displaced the loganberry and the dewberry.

One of the largest growers in California, having four acres in production in 1934 and twenty acres in 1935, found the average production of boysenberries was twenty-two baskets per plant, while youngberries

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in the same field averaged only twelve baskets per plant, which was about the average for the latter over a number of years. The average crop of boysenberries was five and three-fourths tons per acre, while the best field of youngberries made only three and one-half tons per acre. Moreover, the boysenberries sold for almost double the price received for youngberries.

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(Concluded from page 2.)

endeavoring to do for the farmer? Not that we should wish to create scarcity or to put price levels above the comfortable reach of the consumer, but through unselfish, co-operative and intelligent planning, we should strive as an industry to keep production of the major items at a point approaching, at least, a probable or expectant measure of consumption.

"And that takes us back to the question, what does the future hold for us? Personally I do not see an immediate return of such demand for and use of our merchandise as we witnessed during the predepression era. A day is coming when it will be with us again and in heavily increased measure. How near or distant that day may be, I predict not, though I have the feeling it approaches much closer than we realize.

"It isn't surprising that, for the moment, many of us have become pessimistic and show signs of weariness, for we have traveled long and far 'neath clouded skies and through nerve-wrecking fog, but that part of our journey now lies behind us. Fortunately, we are not going back, but if we had to, might we not find the trip less trying and difficult because of yesterday's experiences? Even though the clouds are lifting, the sky above us is getting light and on down the road there seem to be beams of sunshine across our path, might we not do well to curb the temptation to 'step on 'er,' hit a pace of seventy-five or eighty per and try to make up all lost time within the next lap of our journey? Remember, the road from here on is new; it has not yet been traveled, and while it is reasonable to believe all turns, crossings and dangerous points will be duly marked, let us not become reckless or hasty, but with due caution approach them at a speed which will enable us to read them correctly and, having done so, be heedful."

Scientists' Tests Aid Trade

Valuable Material to Nurserymen Presented in Addresses Before Recent Meeting of Horticultural Society at St. Louis

At the annual meeting of the American Society for Horticultural Science, held at St. Louis, December 31 to January 2, many interesting papers were read.

On the use of superior rootstocks it was reported by J. A. McClintock, Purdue University, that Virginia crab was superior to French crab with the varieties Grimes and Ben Davis. Virginia crab was found to prevent collar rot in Grimes and was resistant to woolly aphis and scab. Top-working Virginia crab is becoming popular. To perform this, each tree should be grown as a specimen tree. Budding into the branches is more desirable than grafting.

T. J. Maney, Iowa State College, showed that trees grafted on Virginia crab were three times larger than those grafted on French crab. It was reported that, by introducing an intermediate stock with Virginia crab on French crab, the varieties will grow more uniformly.

The production of Malling apple stock was discussed by H. B. Tukey, New York experiment station. Mother plantations produced 20,000 to 25,000 shoots per acre each year. This correlated with results reported by the English workers. Quince stock plantations produced 50,000 stocks per acre.

The Malling clonal stocks in relation to McIntosh and Wealthy apples were reported upon by J. K. Shaw, Massachusetts State College. Trees were grafted on various Malling stocks in 1928. The use of clonal stocks did not give any advantage over seedling stock. Malling stock numbers 2, 3, 5 and 8 produced dwarf top growth. McIntosh was good on No. 1, whereas Wealthy was a failure. Some stocks prevented the premature dropping with McIntosh. It was brought out that high budding is necessary to prevent the scion from striking root.

The propagation of deciduous trees by softwood cuttings was discussed by C. C. Thomas, of the United States Department of Agriculture. Softwood heel cuttings of a number of acer species taken early in the season rooted thirty to 100 per cent in from nineteen to fifty-five days. Acer

palmatum varieties required from thirty-five to 140 days to root. Black locust rooted seventy-five per cent in twenty-eight days. Chestnut taken in July rooted within two months. The medium that gave best results was slightly acid sand.

Chlorosis of Pin Oaks.

Chlorosis of pin oaks was treated by L. C. Chadwick, Ohio State University. As a result of a two-year test conducted at Ohio State University, temporary recommendation can be given for overcoming chlorosis in pin oaks. Various methods of applying iron have been tried, consisting of applying it to the soil, injection into the tree and spraying of the foliage. Adding ferrous sulphate with sulphur to the soil has given the most consistent results. Ferrous sulphate and finely ground sulphur are applied in holes distributed at intervals beneath the spread of the branches at the rate of one-half pound of each per inch in diameter of the tree trunk. Iron and sulphur should be applied as soon as there are signs of the leaves' yellowing, and ample moisture should be available in the soil for best results.

R. H. Carr, Purdue University, reported on a study that has been made of the effect of a large number of chemical compounds upon the preserving of Christmas trees, especially the Norway spruce, which is widely used for this purpose. Most Christmas trees fail to hold their green color and foliage very long when placed in a warm room. It has been found that, by standing the sawed-off tree in a solution of the calcium salts of certain organic acids, enough of the solution will infiltrate the wood of the tree to cause it to retain the color of its foliage and, to a considerable extent, its piney odor for about two months. Some other tissues, such as the flower of the lilac, can be retained in place for a year, but the lilac does not retain its color. Under certain conditions it is possible to infiltrate the calcium in sufficient quantity to increase the calcium content of the wood to about one per cent.

The influence of coke oven gas on small elm trees was discussed by C. G.

Deuber, Yale University. The influence of commercial illuminating gas of the coke oven type on elm trees was found similar in many respects to that of ethylene, for example, being associated with chlorosis, defoliation, epinasty of leaves, drying of buds and terminal portions of stems, stimulation of lower buds when upper portions of stems were injured or killed, injury and death of some or all roots. Rapid killing of these elm trees was not observed with five to 864 cubic feet of this coke oven gas passed into one liter of soil.

Tree Temperatures.

Tree temperatures and thermostasy were reported on by E. S. Reynolds, Washington University. A continuous, electrically recorded study of the temperature of *Populus deltoides* has been made for several years. Resistance thermometer bulbs were inserted in the center of the tree and at the junction of the bark and wood. The record for the long, hot, dry spell of the summer of 1934 demonstrated the following facts: (1) That the temperature at the center of the tree could be as low as 15 degrees Centigrade. (2) Whenever, under these conditions there was a change in the air temperature, there was an immediate change in the tree center temperature, but in the opposite direction. (3) The temperature at the junction of wood and bark, except under conditions of rapid change, was between that of the air and that of the tree center and from 8 to 10 degrees Centigrade cooler than the air. (4) This junction temperature tended to rise with that of the air in the early morning, but soon somewhat dropped or became constant under the influence of the dropping temperature of the tree center and the heating from the outside. Thus, there was a definite thermostatic, cooling action of the center temperature upon the temperature of the cambium region, which was more effective as the air temperature, and therefore the rate of foliage transpiration, increased. The relatively higher cambium temperature may indicate the presence of a sheet of water internal to the cambium.

Meet at Kansas City

**Western Association Holds Annual Convention,
Missouri and Kansas Bodies Elect New Officers**

This year's meeting of the Western Association of Nurserymen, held January 7 to 9, at the Hotel President, Kansas City, Mo., was said by members to have been one of the most interesting in recent years. The program was made up of live topics and was presented in a way that held the interest of everyone. All of the speakers carried messages of optimism and faith in the future of the business, and nearly all reported improvement in sales and future orders. On one point all agreed—that the outlook is a far brighter one than could be envisioned a year ago.

The convention was the forty-sixth annual gathering of the western association. A meeting of retail nurserymen was held Tuesday afternoon, January 7, with E. H. Smith, York, Neb., presiding. There was a discussion of business conditions in the sections represented and the supply of stock for the coming year. It was decided to secure an expression from some of the leading wholesalers about the latter. This question was answered at the general meeting the following day by A. F. Lake, Shenandoah, Ia.

Opening Session.

The opening session of the Western Association of Nurserymen was held Wednesday morning, January 8, with the call to order by J. Frank Jones, Lawrence, Kan., president. Applications for membership were received from eight firms. This made the total registration about seventy firms and individuals. Reading of the minutes of last year's meeting by George W. Holsinger, secretary-treasurer, completed the twentieth year that Mr. Holsinger has performed this duty.

President Jones, in his annual address, stressed the necessity for perseverance and for facing the future instead of the past. He urged nurserymen to forget the prosperous days, when orders came easily, and to set out to create new business in a field that has wide possibilities. Mr. Jones also made a plea for support of the association. Once a year, he said, men whose problems are much alike gather from many states. After discussing these problems and getting new viewpoints they return to their homes with new determination to carry on. Friendships renewed year after year, he said, also provide a stronger bond than the mere payment of association dues. Members were urged to secure new members until all the legitimate nurserymen within the boundaries of the organization are working together for mutual improvement.

Entomologist's Remarks.

The afternoon session was opened with an address on "The Effect of Fruit Plants on Subsoil Moisture," by Dr. C. C. Wiggans, chairman of the department of horticulture of the University of Nebraska, Lincoln. Next came a talk on "The Present-day Problems of the Entomologist," by Dr. George A. Dean, of the Kansas State College, Manhattan.

Some of the problems listed were the Dutch elm disease, Japanese beetle, peach mosaic, red spider and flat-headed apple-tree borer. The Dutch elm disease, Dr. Dean said, had necessitated the cutting down of between sixty and seventy per cent of the fine elm trees along the boulevards of Paris and in the gardens at Versailles. This disease has been known since 1919, Dr. Dean stated. Many American cities have felt the ravages of this pest. In some places, quarantine areas have been established, and neither plants nor soil may be moved from these areas. Even where excavations are made for new buildings the soil removed must be placed at some point within the area.

The Japanese beetle was said to be most destructive in the United States. Because of the severe droughts of 1934 and 1935, the flat-headed apple-tree borer was at its worst in these summers. In spite of its name, this borer affects other trees, elms as well as fruit trees being infested. Also because of the drought red spiders injured almost every kind of shrub last summer. Peach mosaic has been destructive in Colorado; fully 50,000 trees in the Palisade district have been removed. Portions of California have also lost many trees from the same cause. Dr. Dean said that it is not known how this disease is carried; efforts are being made against it, and it can probably be eradicated in time.

C. A. Chandler, Kansas City, Mo., read a paper on "How to Grow Evergreens," printed on a forward page.

Trade Prospectus.

Following Mr. Chandler's talk, A. F. Lake was called upon by President Jones to give some idea of the supply of available stock. The supply has been

light, Mr. Lake remarked, and good prices have prevailed because of this condition. The demand has been ordinary. Mr. Lake said in his opinion the public is just beginning to buy and the nurserymen are on the edge of a wonderful prosperity. Recent snows through this section have provided additional moisture and the ground is in good shape, in many places to a depth of six feet.

"Good ornamentals are scarce," he continued. "Small grades of shade trees are scarce. Carload after carload have been planted and are being planted. It would seem that after this year shade trees are going to be good property. People are going in for more ornamentals. We must major in newer and better things. I advise the younger men in this industry to grow worth-while things."

"I have seen a most wonderful change since the time when my father was in business. The old Jonathan apple still leads in sales, but Delicious is creeping in. While a few old varieties are holding on, the new streamline varieties are increasing in popularity. Older members, tell your sons to watch the schools. They are doing a wonderful work, trying to help us. We should help them. There is a wonderful future to this nursery business, and there is a lot of fun. There was a lot of sorrow through the depression, but the future is bright."

"The day of the tree butcher is past. Boys and girls on the farms want their home places fixed up, and those who do the job must be landscape men. We are facing a great future in the nursery business and in all kinds of business. The younger men coming on will have opportunities that we have never had. I have a son in college, preparing to come into the business, and I know that he will go farther than I have ever gone."

State Groups Meet.

At the close of the afternoon session there was a meeting of the executive committee. Wednesday evening members of the Missouri State Nurserymen's Association met. Officers were re-elected. They are G. L. Welch, St. Joseph, president; C. A. Chandler, Kansas City, vice-president, and W. A. Weber, Affton, secretary-treasurer.

Further discussion of a new lien law for nursery stock, which has been contemplated by the Missouri group for several years, resolved itself into a decision to prepare a bill for the next state legislature. The members also protested the growing and propagating of nursery stock by the state highway department. Stock is being grown in four different places in the state by this department, it was declared, and in one of these stock is being propagated. Immediate action in this matter was agreed upon.

The Kansas State Nurserymen's Association also held a meeting the evening of January 8. J. F. Nevins, of the Blue Valley Nurseries & Orchard Co., Blue Rapids, Kan., is president, and J. Frank Jones, Lawrence, is secretary-treasurer. These officers were elected at the annual field day held last September and will hold office until January, 1937. A membership drive was decided upon by the association in behalf of the Western Association of Nurserymen, the payment of dues for

(Continued on page 14.)



Edward L. Baker.
(President-elect, Western Association.)

Selling Roses and Other Plants in Pots

Ernest Haysler Tells Western Association Effective Way to Combat Cut-Price Competition and Obtain Better Prices

"Handling Roses and Other Plants in Pots" seems to me to be a subject more appropriate for discussion at a florists' meeting than at a nurserymen's convention, because plants growing in pots have been generally regarded as being part of the florists' business. However, due to the fact that such a large part of the business which rightfully belongs to the nurseryman is now handled by the department and drug stores, which during the short spring season, when we are forced to do the major part of our year's business, offer all kinds of nursery products at prices that will not show a living profit to the nurseryman, and in many cases at prices lower than the nurseryman's cost, my subject is becoming more and more important to the nurseryman.

Much of the nursery stock sold by these department and drug stores is trash, of course, as compared to the stock sent out by the nurseryman. Many of the roses are bench roses, and many other shrubs and plants are light or are culls as graded by the nurseryman. Does the purchaser know this? I think not. Unfortunately, our customers are not familiar with quality or grades and buy this cheap nursery stock simply because it is advertised as being first-class and is offered at such a low price.

Practices of Cut-rate Stores.

Nurserymen know that as soon as the spring planting season arrives these stores sweep down on the nursery business like buzzards and take the cream off the business, and as is the habit of the buzzard, they fly away only to come back at the same time the next year to do the same thing over again, leaving the nurseryman only the bones to pick.

What are we going to do about it to enable the nurseryman to continue in business? We can't legislate these cut-rate stores out of the business, and we can't prevent the wholesale nurseryman from selling his surplus to these stores, although it seems to me that common self-interest should prevent the wholesale grower from offering his culls and surplus stock to the stores which advertise them as "first-class stock." In my judgment, it would be a better proposition for him to burn it.

The poor credit rating of many competent and hard-working nurserymen is due to this practice of the wholesale grower. Any wholesaler must know that the first money that comes to the nurseryman must go to the support of his family and himself and to pay his help. If any money is left after living expenses and labor are paid, it will probably go to pay the wholesaler for stock. If no money is left after paying this overhead, which cannot be dodged, the wholesaler stands a poor chance of getting his money. How, then, can he sell these cut-rate stores his stock when he knows that it will be used to cut the throat of the retail nurseryman, the very man on whom he depends for at least seventy-five per cent of his business?

So this is the big problem before us if we expect our business to prosper and

not peter away as the horse and buggy disappeared from our streets. The only solution of this problem, to put our business back in the hands of the legitimate nurseryman, appears to me to be:

First, we must extend our selling season by preparing our goods so they may be sold all through the spring, summer and fall, instead of only during a few months in the spring and then again for a few weeks in the fall. If we can do this, we can take the big spring rush out of the nursery business which makes the business so attractive to the department and drug stores and compel them to consider the nursery business an all-summer business and therefore too spotty to be profitable to them. If this condition could be brought about, I believe these stores would discontinue selling nursery stock, and that would mean a living profit for the nurseryman.

Second, we must make such changes in our business as will bring it up to date and in line with modern business methods. Remember this, the nursery business is done today exactly as it was done before the Civil war. Not a change has taken place. We are still offering our customers the same little, apparently dried-up, dormant, naked rosebushes, shrubs and trees as buyers were offered 100 years ago, while all around us every other business has undergone a complete revolution in handling and selling methods. Take, for example, the baker who offers his bread already sliced and ready to eat. In every line the effort has been made to furnish the ultimate consumer a completely finished product except in the nursery business, which still sticks to the out-of-date plan. If we expect our business to live, we must adopt modern ways and furnish our customers with plants, roses and shrubs in bloom and ready to serve the purpose for which they were bought, viz., to beautify the place in which they are to stand.

Growing in Pots.

Both of these important problems have been solved in our own business by the development of our Cloverset plant pots, which, due to the heavy weight of the plants growing in these pots, the department and drug stores find it impracticable to sell. Had the evergreen growers years ago started to sell evergreens with bare roots, that part of our business would now be in the hands of the department and drug stores during the spring planting season, but we have educated our evergreen buyers to the belief that an evergreen should always be sold with a ball of soil on the roots. The result of this education is evident in the absence of evergreens in the advertisements of these stores. If we could extend this same reasoning to the other departments of our business and convince our customers that roses and shrubs and all other nursery stock will grow better, bloom better and live longer if moved with a ball of soil (growing our plants in pots permits us to furnish them with a ball of soil), we should be going a long way toward eliminating the unfair competition of these stores.

Our Cloverset pot was developed by us in our efforts to handle our goods in some way that would be different from the old method generally used by nurserymen, and the results have been so satisfactory that we are using this year over 50,000 of these pots for our own planting requirements. In these pots we grow perennial plants, roses, vines of all kinds and many varieties of the most popular small shrubs; in fact, about eighty per cent of our line of general fast-selling nursery stock is grown, handled and sold in these pots. As our stock grown in these pots is so easily transplanted in the purchaser's garden (simply by ripping off the pot), we find that most of our customers are willing to take the plant home and plant it themselves, thereby making a cash sale and a completed sale out of what ordinarily would mean a delivery and a C.O.D. collection and perhaps end with our having to plant the item for our customer free. Growing plants in pots produces better plants than growing them in the field, because we can better control the watering, the fertilizing and the spraying, and by repeated moving of the plant, we can develop a much more symmetrical plant than can be grown in the field, and all of this can be done in much less space than is required in field planting.

Stages Shows.

Our selling season now begins about March 15 and continues throughout the spring, summer and fall, and as the different plants come into bloom we hold our flower shows, first the lilac show, then the rose show, crêpe myrtle show, clematis show and hydrangea show. Our roses (we sold 28,000 at retail in 1935) are in bloom all summer, and while we have our first big rose show in late May and early June, we cannot, of course, advertise a continuous rose show throughout the entire summer and fall. People would soon tire of that; so we advertise the other shows as the respective plants come into bloom, but, roses being our main line, our rose gardens are always beautiful and every visitor before leaving has ample opportunity to go through our gardens and usually goes home with at least a few roses in the ear, and we enjoy the tinging of our cash register bell when the money comes into our till.

We believe handling roses and other plants as outlined here offers the only solution to the troubles of the nursery business as it stands today. This new system of handling our goods has been successful in our nursery, and I know it will be successful in yours. We, of course, do not recommend the abandonment of the sale of dormant plants in the early spring. We sell about twenty per cent of our stock dormant, but we do depend on our potted stock for the main part of our year's profit, because after May 1 we have the business all to ourselves, as by that time the department and drug stores have discontinued their nursery departments.

The process of potting and growing different kinds of plants and shrubs is

essentially the same, with perhaps some minor changes of not much consequence; so in dealing with the subject, "Handling Roses and Other Plants in Pots," I shall tell you in detail how we handle our roses.

Three Essentials.

Good plants, good soil and a suitable pot or container are the three essentials to good roses and satisfied customers. A cheap, poor, scrubby rose plant, in spite of all the care and coaxing it may receive, is still a scrub and never will be anything but a scrub; therefore, we emphasize the fact that, first of all, a good, strong No. 1 plant is the key to success in growing and selling roses.

We plant in our Cloverset rose pots only No. 1 rose plants. Our stock comes from Oregon and California. We make up our potting soil a year ahead, in ricks twenty feet wide and 100 feet long, using successive layers of two feet of good pasture topsoil and one foot of cow manure until our rick is about eight feet high. A thorough watering of the finished rick will cause it to burn and settle to about six feet high by the following spring. At potting time, which in Kansas City is about March 20, we add to each truck load (about one and one-half tons of soil) fifty pounds of 5-8-6 commercial fertilizer, ten bushels of rotted cow manure and ten pounds of hydrated lime. This compost is then run through our soil shredder and ground as fine as possible. Let me add that speed in getting the roses into the containers is the important thing in our minds at this time. We want all our roses in full bloom for our rose show about May 20, and our spring rush will soon be upon us. We use eight potters and ten helpers and pot up about 2,000 per day.

Potting.

The pot, straightened out, is placed on the potting bench, care being taken that the bottom tabs are in proper place. Then about one inch of soil is placed in the bottom. (We use fire shovels for handling the soil.) The rose plant, which has been cut back to about six inches high, is placed in the container with the roots as nearly as possible in natural position. Then more soil is shoveled in, the plant meanwhile being gently shaken, so that the soil will fill in around the roots (we use rather dry soil). As the container is filled, we tamp the soil hard with a potting stick made of an old shovel handle, as roses need tight soil. The container is filled to within one inch of the top. The containers are lifted carefully and placed in flats, which in turn are loaded on wagons to go to our coldframes, which are six feet wide and twenty-seven feet long. Each frame will hold 500 roses placed close together. They are thoroughly soaked and then covered with a single thickness of burlap blankets eight feet wide and thirty feet long, which we had made at a cost of \$1.50 each by our bag company.

For the next three weeks, to provide a humid atmosphere and to prevent the drying effects of winds, the plants are sprayed four or five times per day, the object being to prevent the tops from shriveling before root action begins.

Breaks Show Green.

In about three weeks the eyes begin to swell and then the blankets are removed in the daytime and put back at night. About April 15 the breaks begin to show green. We then begin to space the plants

by taking some of the roses out of each frame, moving them to our display gardens. As our selling season is now on, we sell the roses out of the frames about as fast as we need the room. Spacing is absolutely necessary to produce bushy plants, and by constantly moving the plants around, we give them better sunlight, get a better shaped plant and, at the same time, prevent the plant from rooting into the soil. We try to keep all the roots in the container and never allow any taproots to develop.

Right now we begin to spray, and spraying is kept up once a week and after every heavy rain all during the season as long as the foliage remains green. Spraying is all-important and must never be neglected, for when once insects or disease get a good foothold, they are hard to control. For lice and leaf eaters we use a rotenone spray, and for the control of black spot and mildew we use a copper solution. During April, May and June we use them as a combination spray. After July 1 the lice and leaf eaters are usually gone and we then use the copper solution alone.

Free Rose Show.

By May 20 our roses are in full bloom, and we put on our first free rose show, using large display advertisements in the Sunday papers. By this time the cheap roses of the department and drug stores are off the market, and from the way our customers talk, two-thirds of them are dried up and dead; so we are in a fine position to do some real rose business. By liberal advertising we keep this show going as long as the blooms look well, which is usually about three weeks. Then while we are waiting for our next crop of blooms, we put on our perennial show and mention in our ads such other blooming plants as are in their prime blooming condition. Starting about May 10, we also liberally advertise our bedding plants grown in our greenhouses.

As we depend on the blooms to sell the plant, we never sell buds or allow anyone to cut blooms off our plants.

Our roses are watered every morning, the containers being filled to the top, and on windy or extremely hot days we water twice if necessary. We never let the plant get dry enough to show any wilt. Every thirty days we feed our roses with some good fertilizer (we use 5-8-6), mixing twenty pounds of fertilizer with two bushels of finely sifted potting soil, filling the containers to the original level. Watering gradually washes the soil from the containers, and this feeding again fills them up.

This is the program we follow at Cloverset Farm, which enabled us to get 60 cents, 75 cents and \$1 each for 28,000 roses in 1935, while radio, newspapers and mail-order catalogues were quoting and offering roses at three for 39 cents, five for \$1 and whatnot prices, and enabled us to make money out of our business.

Fears No Competition.

We believe that in these modern days of "the more abundant life"—when every man, woman and child aspire to and are being educated to get by without work—the man who will work hard need never fear competition. With that idea in mind, we put lots of time and trouble in our efforts to produce the finest plants at a reasonable cost rather than ordinary plants at a cheap price.

We have reduced our work as much as

possible by using machinery to do it wherever possible. For instance, our biggest single job, perhaps, is spraying. We formerly used four men two days to go over our gardens. We now use a portable sprayer with two lines of hose, that gives us 250 pounds' pressure and enables two men to do the job in one day, and mind you, we started in, in April, 1935, with 30,000 roses to spray.

We maintain two beautiful rose gardens at our nursery. They contain about two acres and are formally laid out with circular paths and fancy beds, dotted with climbing roses and trellises, specimen evergreens, shrubs and garden pottery. We also have large rock gardens and perennial gardens. These we maintain as our show windows, and in these gardens we hold our free shows. In May we hold our first rose show, showing the hybrid teas as well as early-blooming shrubs and perennials.

In June we have our climbers in bloom and our climbing rose show. In July the crepe myrtle comes along, with later our phlox show and our chrysanthemum show. Big ads in the daily papers, especially on Sunday, will always bring a crowd, and we have found that the bigger the ad, the bigger the crowd, and, of course, the bigger the sales, the bigger the profits.

Advertising Pays.

Don't be afraid of the cost of your newspaper ads. They will pay for themselves many times over.

We believe that, although every market in every line is overrun with cheap, shoddy, worthless goods, there is a crying demand for finer, better grown nursery stock and we believe that better stock, better displayed, means better profits.

As soon as our first crop of rose blooms becomes shattered, we get ready for our next rose show by cutting back the plants to leave two leaves on the stub. This cutting keeps the plants low and bushy and induces low bottom breaks with new foliage, which produce the best blooms and of which the foliage is less susceptible to the development of black spot than that of older shoots.

We issue circulars giving full and detailed descriptions and cultural directions for growing our goods in this up-to-date, modern way. These circulars are sent free on request.

OBITUARY.

George W. Jones.

George W. Jones, owner and manager of the Valdesian Nurseries, Bostic, N. C., died December 22, at Rutherford hospital. He was 61 years old.

Mr. Jones was a native of Catawba county, N. C., but moved to Rutherford county about thirty years ago. At his death he was operating a nursery of sixty acres or more, in connection with which he also operated a large greenhouse business. He also owned a large farm, several lots and buildings in Rutherford City and other property in Rutherford county and elsewhere. Mr. Jones was considered one of the best business men of that section and was influential in politics, having served as chairman of the Democratic executive committee of Rutherford county for a number of years.

Mr. Jones was laid to rest beside his father and mother at Hopewell church.

THE VALUE OF PEAT MOSS.

Peat moss is a useful commodity wherever plants are concerned. The experts have not yet unraveled all of its secrets, but it is seldom a disappointment in use. Perhaps its virtue lies in its water-holding capacity. It does, indeed, hold an unbelievable quantity of water. In making some comparative tests in this regard, it was found that some mosses will hold water equal to fifteen to sixteen times their dry weight. One sample ran 13.8, another 12.1 and another 11.1, while still another held only 6.03 times its dry weight.

Of course, if the chief value lies in its moisture-holding capacity, then the cleaner, finer and purer the product, the more moisture it will hold per given weight. A pound of peat which contains soil and other similar mineral matter cannot be expected to hold as much water as peat with no such materials present. Likewise, peat which contains chunks of tree roots and other woody material cannot be expected to take up as much water as a pure sphagnum. So just to say "peat moss" is dodging the issue. One should really know from what the peat is derived and not expect all grades and types of peat moss to be uniformly useful for all purposes. One type may be well suited to one purpose and another type to another purpose.

In general, we have had splendid results with good grades of peat moss as surface coverings in stool beds. The soil is more easily worked, the new shoots break through the soil more easily and the type of rooting is greatly improved. These points are most significant with materials which layer with difficulty and which must be kept in the dark, or etiolated with soil covering, if they are to root satisfactorily. In heavy soils, such shoots often fail to get through the surface, but with peat moss incorporated as a top-dressing the improvement is marked.

Again this season the usefulness of peat moss as a seed bed covering on heavy soils has proved its worth. Year after year the loss on heavy soils has been large, because of baking of the surface and the inability of the seeds to get through. Blocks of pear seeds that were covered with a thin coating of granulated peat moss are showing a splendid stand, while the blocks not so covered are poor by comparison. We shall never again try to grow seedlings on heavy soil without making a light covering of peat moss. H. B. T.

A PLOT 100x100 feet at Northern boulevard and One Hundred Forty-ninth street, Flushing, Brooklyn, N. Y., has been leased for a nursery for three years, to C. W. Lupton, Laurelton, N. Y.

A NEW quarantine on account of the Dutch elm disease covering the southern section of Connecticut has been drawn up by William L. Slate, director of the state agricultural experiment station, and approved by Governor Wilbur L. Cross. The object is to check spread of the Dutch elm disease by stopping shipment of diseased wood outside of zones where the disease has been found. A state order is necessary to prevent federal order No. 71 from applying to the whole of Connecticut. Included in the quarantine are the following towns: Darien, Stamford, Norwalk, Greenwich, Fairfield, New Canaan and Westport.

"PAINESVILLE NURSERIES"



We are Prepared!

to take care of your orders from our large, complete assortment of

**Fruit Trees, Grapes,
Ornamental Trees and Shrubs,
Evergreens, Roses, Perennials, Etc.**

81 Years of Dependable Service

The Storrs & Harrison Company
PAINESVILLE, OHIO

CLOVERSET POTS

Patent applied for

FOR THE NURSERYMAN



The Cloverset system of handling nursery stock will put the nursery business back into the hands of the nurseryman, and will enable the nurseryman to make a profit out of his business.

The Cloverset system will enable you to extend your planting season throughout the entire spring, summer and fall, instead of having to do the major part of your year's business during the early spring months.

Full particulars in our free circulars.

Write for them today.

CLOVERSET FLOWER FARM

105th Street & Broadway

KANSAS CITY

MISSOURI

Illinois Meeting

Notable Addresses Feature Twentieth Annual Convention of State Association at Chicago

Change of headquarters from the Sherman to the La Salle hotel a day before its opening interfered not at all with the success of the twentieth annual convention of the Illinois State Nurserymen's Association, at Chicago, January 15 and 16. About 100 attended the opening session Wednesday afternoon, when President Elmer L. Clavey called the meeting to order. Saddening announcement was made of the death, the night before, of a former member, Harry Kadlec, Niles Center.

President Clavey gave a brief address, packed with facts about the year's activities of the association. It follows this report.

The figures given by Treasurer Ernest Kruse showed the association had spent \$953.96 the past year, slightly more than its income, leaving a balance of about \$600 on hand at the date of the meeting.

Outlook for 1936.

The listeners of his address on "The Outlook for 1936" were given good reason for optimism by D. E. Morrissey, manager of the Chicago office of Babson Reports, Inc. His organization predicts prosperity for the coming year, more especially in the building and heavy industries, with some rise in buying of consumption merchandise depending upon political and economic factors.

The unemployment situation he considered so serious that he likened it to a volcano overhanging us. Being favored by the social legislation of the present day, it is not likely to be speedily relieved. The social security act will lead to the still further use of labor-saving machinery and will not ameliorate conditions. Instead of the various expensive plans used to relieve the jobless, he favored a quota plan, whereby each business organization might pay its taxes either in cash or through additional employment, thus gaining useful service in the community while creating jobs.

Bullish on 1936, Mr. Morrissey looked for a ten per cent gain over 1935 by the end of this year, when the trend of business on the Babson chart should approach the normal line. He scoffed at the old fear of an election year, stating investigation had showed that out of the last sixteen election years, seven brought improvement, seven a decline and two no change. In view of the gains predicted in employment, sales and profits, he urged nurserymen, in common with other business men, to engage in timely sales campaigns, carefully planned, embodying new ideas and directed to those groups and localities which had been most favored by the upturn.

Revitalization.

Miles W. Bryant, president of the American Association of Nurserymen as well as secretary of the Illinois State Nurserymen's Association, spent a full hour on the subject, "Revitalization of the A. A. N.," and convinced his hearers that slow progress is being made

toward reorganization. When the revitalization plan was referred to the A. A. N. executive committee by the Cincinnati convention, President Bryant added two outside individuals in an advisory capacity, Owen Wood, Bristol, Va., and John Surtees, Richfield, Conn. A plan prepared by the latter and subsequently revised was the subject of careful consideration at a recent meeting in New York attended by the two mentioned, President Bryant, Ex-president Lester Lovett and Donald Wyman. The plan was then submitted to the executive committee of the A. A. N., which met at Chicago just prior to the Illinois convention, when amendments made required that the plan be resubmitted to the smaller com-

mittee. So an aggregate number of nurserymen having a mind for organization, it is estimated, would be 2,500. The total income of all these organizations, including the A. A. N., is \$25,000 annually, which Mr. Augustine said would be much insufficient to carry out the plans for a Washington secretariat and other progressive moves desired by those who proposed revitalization.

Inasmuch as it was considered not feasible to form a national organization by the voluntary action of the local bodies, a current plan proposes the chartering of seven regional organizations, of which six now function, the only one lacking being in the central states. As to membership in the local and state groups, and the dues to be paid, decision is difficult. The progress of the committee indicates that a detailed plan will be presented before long.

Speak on Taxes.

Roy G. Harris, president of the Tax Service Association of Illinois, talked briefly on the mounting burden of taxation and what it meant, and would mean, to the person who must pay, "the man on the street." He urged his hearers legally to avoid such taxes as they can through the employment of expert assistance in taxation matters. He spoke especially of the heavy load to be imposed by the social security act. Detailed regulations are not yet available, but every nurseryman should keep employment records so that when and if collection of tax is made under that law, he will have the necessary figures to show his liability.

This likewise was urged by Miles W. Bryant, when discussing the status of the nursery industry under the social security act in the round-table discussion following. Whether or how much nursery labor will be exempt from the provisions of the act as agricultural labor, he could not say, although the ruling at Washington in regard to the N. R. A. would perhaps assist in obtaining a favorable decision. But as that could not be expected for months, and possibly not for a couple of years, and then only by court action, it is essential that every employer of eight or more persons, no matter how briefly any of the eight may work for him during the year, should keep written record of those who work for him, their age, period of employment, amount paid and rate.

Thursday's Program.

Adjournment was then taken until the luncheon the following day, to be addressed on "The Romance of Life," by Dr. Preston Bradley. Subsequent were addresses on "Sales Problems" by L. E. Frailey, editorial director of the Dartnell Publications, Chicago, and on "New and Better Ornamental Woody Plants for Nurserymen and Landscape



Elmer L. Clavey.

mittee. At the executive meeting at Chicago were President Bryant, Secretary Charles Sizemore, Vice-president Edward J. Baker, C. G. Marshall, Louis Hillenmeyer and Donald Wyman.

Interesting figures were given by President Bryant regarding the possible membership in a national organization of nurserymen. These were gained by soliciting figures from a list of seventy nurserymen's organizations as to membership and annual budget. Twenty-four of these organizations are affiliates of the A. A. N. and have a total membership of 1,420, exclusive of duplicate memberships. An additional sixteen organizations have about 700 more members, fifteen were reported as defunct and about fifteen did not re-

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We are exclusively wholesale growers, and specialize in contract growing. Let us grow items for you that can best be grown in our volcanic ash soil, where we have a long growing season and moisture under control. Send list of your present needs in Chinese Elm and Apple Seedlings for prompt shipment.

WASHINGTON NURSERIES Toppenish, Wash.

While they last!

Excellent Quality — 45 of them specimens.

400 Juniper }
Scopulorum } 3 to 7
1000 Blue Spruce } feet

Dig your own, in the field, nursery run, 50c per ft., or B. & B.

f. o. b. Colorado Springs, 70c per ft.

Upton Gardens
Hwy. 8 & Main St.

Colorado Springs, Colorado

APPLE SEEDLINGS

Nebr. grown, from French Crab seed.

Let us make you prices.

50 bu. seedling Peach seed
\$1.50 per bu.

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OVER SIXTY YEARS OF SEEDLING EXPERIENCE
Our crops of APPLE, CHERRY, PEAR and PLUM stocks are now being graded and are extra good.
Will gladly quote prices and send samples.
Also have splendid assortment of General Nursery Stock.
Spring List will be mailed in January.
LAKE'S SHENANDOAH NURSERIES
Shenandoah, Iowa.

PRIVET and BERBERIS

Splendid Stock

Write for Special Quotations

LESTER C. LOVETT

Milford

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EVERGREENS
For Seventy years growers of Quality Evergreens
Lining Out Stock a Specialty
Trade List Now Ready
EVERGREEN NURSERY CO.
Established 1864 : SURGEON BAY, WIS.

HILL'S EVERGREENS
Complete assortment of lining out sizes
Also larger grades for landscaping
Send for our wholesale catalogue
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EVERGREEN SPECIALISTS
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Canterbury Boxwood

Buxus suffruticosa and B. sempervirens. Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.
CANTERBURY NURSERIES, Inc., Box A, Easton, Md.

Gardeners," by Dr. L. C. Chadwick, of Ohio State University.

The exhibits this year are limited to two, one of an extensive assortment of nursery tools by A. M. Leonard & Son, Piqua, O., and the other of fruit tree seedlings by John Holmason, president of Pacific Coast Nursery, Portland, Ore.

PRESIDENT CLAVEY'S ADDRESS.

Before Illinois Association.

Monthly meetings of the board of directors maintained activity in the Illinois State Nurserymen's Association the past year, reported President Elmer L. Clavey in his official address. Credit was given to directors, secretary and committees for their good work.

He called attention to the fact that, due to Arthur Palmgren's committee on state highways and park plantings, with the fine coöperation of Albin Gries, landscape engineer of the division of highways, some revisions in the state specifications had been made; also a method had been devised by which a prompt report by district landscape engineers to the Springfield office of deliveries and acceptance of stock greatly facilitated the prompt return of certified checks accompanying bids. The division of highways, under the direction of Albin Gries, state landscape engineer, expended on trees, shrubs and necessary labor approximately \$100,000 from state funds during the fall of 1935.

Control of Elm Scale.

Referring to quarantine matters, President Clavey said: "Through lack of knowledge, some detrimental propaganda has been released to the public which has certainly not helped the sale of elm trees, and when we take into consideration the tremendous investments that the nurserymen in the middle west have in elm trees, I believe it not only becomes the duty of this association, but also the duty of the various associations in the middle west, to use their influence that such propaganda be stopped, and if necessary to educate the public to the fact that European elm scale is as easily controlled as oyster-shell scale. I believe we should secure the help and coöperation of the various state entomologists, if necessary.

More Profitable Year.

"From all reports, the nurserymen have enjoyed a more profitable year during 1935 than they have had for some time. This is undoubtedly due to the elimination of surplus plant materials, which has had a tendency slightly to increase prices. I do not want you to think that the nurserymen are making a profit. No doubt the majority of us have sustained smaller monetary losses during the past year than we have during the previous years of this depression. A great many varieties are selling below cost of production and will continue to do so until the surplus varieties have been eliminated, which I believe will be in the near future. The time has come when we, as nurserymen, must take into consideration the cost and time of production of our products, not merely the cost of digging and delivering.

"Had it not been for the very fact

(Concluded on page 17.)

20,000 CHERRY, Montmorency and Early Richmond, 2-year, XX and 1/4 inch.

5,000 SPIRÆA, Vanhouttei, 3 to 4 feet and 4 to 5 feet.

25,000 ELMS, American, Vase and Mo-line, transplanted, up to 4 inches.

10,000 MAPLE, Norway, transplanted, up to 2 1/2 inches.

2,000 ARBOR-VITÆ, Pyramidals, up to 8 feet.

400 FINE, Mugho, from 2 to 4 feet.

1,000 SPRUCE, Norway, sheared, none better, 3 to 5 feet.

600 JUNIFER, Pfitzer's, 5 to 8 feet spread, beauties.

2,000 ARBOR-VITÆ, American, and RETINOSPORA, 4 to 7 feet.

Send for list on many other items.

C. M. HOBBS & SONS, Inc.
Bridgeport, Indiana

Largest Nursery in Indiana.

Established 1875.

A. MCGILL & SON

FAIRVIEW, OREGON

Wholesale Only

Our usual line of quality nursery stock, including Shade and Flowering Ornamental Trees and Specialties, Fruit Tree Seedlings and Roses.

Grown Right and Packed Right

A card will bring our list of items that will make you some money.

Milton Nursery Co.

Milton, Oregon

Maple, in assortment for Parks, Cemeteries, Subdivisions and Landscape Work. Birch in variety, Hawthorn and other Ornamental and Shade Trees.

Seedlings, Fruit and Shade Trees, in assortment.

Ample and Complete Stocks.

Car lot shipments at reasonable freight rates.

OREGON-GROWN ROSEBUSHES

Send for List

PETERSON & DERING, Inc.

Wholesale Rose Growers

SCAPPOOSE, OREGON

C. R. BURR & CO., INC.

MANCHESTER, CONN.

HEAVY SURPLUS ON SOME ITEMS

Write for Low Prices

Princeton Nurseries

of PRINCETON, N. J.

SUPERIOR

Hardy Ornamentals

Many Meetings Ahead

Annual Gatherings of Trade Associations

NURSERYMEN'S CONVENTIONS.

January 17 and 18, Michigan Nurserymen's Association and Indiana Nurserymen's Association, joint meeting, Whitecomb hotel, St. Joseph, Mich.

January 21 to 23, conference and short course for nurserymen, Ohio State University, Columbus, O. The annual meeting of the Ohio Nurserymen's Association follows, on January 23 and 24.

January 21 to 23, Tennessee State Nurserymen's Association, annual convention, Knoxville, Tenn.

January 22, Connecticut Nurserymen's Association, annual meeting, Centerville.

January 22, North Carolina Association of Nurserymen, semiannual meeting, Robert E. Lee hotel, Winston-Salem.

January 23 and 24, Ohio Nurserymen's Association, annual convention, Deshler-Wallick hotel, Columbus, O.

January 28 and 29, New England Nurserymen's Association, annual convention, Hotel Statler, Boston, Mass.

February 11, Wisconsin Nurserymen's Association, annual meeting, Republican hotel, Milwaukee, Wis.

February 12, Eastern Nurserymen's Association, annual meeting, Stacy-Trent hotel, Trenton, N. J.

February 13, New Jersey Association of Nurserymen, annual meeting, Stacy-Trent hotel, Trenton, N. J.

BADGER STATE MEETING.

The Wisconsin Nurserymen's Association will hold its annual convention at the Republican hotel, Milwaukee, February 11. A morning business and executive session for members only will be held at 10 a. m., with a group luncheon at noon. The program will begin at 1:30 p. m. Some interesting speakers will appear at this session, discussing issues vital to the nursery industry. The afternoon session is open to the public. M. C. Hepler, Sec'y.

CHANGE EASTERN DATE.

To avoid conflict in meeting dates, the annual session of the Eastern Nurserymen's Association announced for January 15 was postponed until February 12. It was the opinion of the officers and the executive committee that the later date would also find available valuable information regarding the revitalization of the American Association of Nurserymen, as well as reports on the most important actions of various state associations.

The meeting will open at 10:30 a. m. with a roll call and president's address. Reports of officers and committee heads will follow, among them being an important talk by Albert F. Meehan on quarantine matters. Additional remarks will be made by Dr. Thomas J. Headlee, Dr. Richard P. White and L. H. Worthley or his representative.

Topics for general discussion will be as follows: (1) "Is the Market Replacing New Planting or Municipal and Government Planting?" (2) "Future Activities of the Eastern Nurserymen's Association."

After the report of the nominating committee, election of officers for 1936 will be held. All nurserymen, whether members of the association or not, are invited to participate in the discussions. Nurserymen are also urged to stay over the following day for the annual meeting of the New Jersey Association of Nurserymen, to be held at the same place February 13.

PENNSYLVANIA PROGRAM.

The annual winter meeting of the Pennsylvania Nurserymen's Association will be held at the Abraham Lincoln hotel, Reading, January 22 and 23, which is the same week as the big annual farm products show at Harrisburg.

The first day will be devoted to the regular business and, in the evening, to a round-table discussion on merchandising. At the morning session the second day, two illustrated talks will be given, one by A. E. Wohlert, of the Garden Nurseries, Narberth, on "Flowering Trees," and the other by Edwin Matthews, of the Outdoor Art Co., Chestnut Hill, Philadelphia, on "Ornamental Fruiting Trees and Shrubs."

OHIO CONVENTION PLANS.

Outstanding speakers and a program of varied interest will feature the twenty-ninth annual convention of the Ohio Nurserymen's Association, to be held at the Deshler-Wallick hotel, Columbus, January 23 and 24. Among the speakers will be Miles W. Bryant, Princeton, Ill., president of the American Association of Nurserymen; Alfred C. Hottes, Des Moines, Ia., associate editor of *Better Homes and Gardens*; Lester C. Lovett, Little Silver, N. J., and Fred J. Nichols, of the National Cash Register Co., Dayton, O.

Other speakers will be J. S. Houser, entomologist of the Ohio agricultural experiment station, and Dr. L. C. Chadwick, of the department of horticulture, Ohio State University, Columbus.

Earl H. Hanefeld, director of the state department of agriculture for Ohio, will be the principal speaker at the fourth "Ye Olde Time Dinner." This unique dinner, served in old-time country style, with the food brought on in platters, gravy in huge bowls and candles for illumination, has become a classic event at the annual Ohio convention. Harry R. O'Brien, Worthington, O., will be the toastmaster.

Officers of the Ohio Nurserymen's Association this year are W. G. Siebenthaler, Dayton, president; A. N. Champion, Perry, vice-president, and J. Howard Burton, Casstown, secretary-treasurer. Members of the executive committee are Harry S. Day, Fremont; J. Howard Burton, Casstown; Thomas B. Medlyn, Cincinnati; Paul W. Kallay, Painesville, and E. D. George, Painesville.

BOSTON SCIENCE COURSES.

The third series of lectures in the science courses offered by the Massachusetts Horticultural Society at Boston, Mass., will begin Wednesday eve-

ning, January 22. Dr. E. J. Haertl, who has charge of the first-year work, will start his first course on "Systematic Botany." Interest is added to this course because Dr. Haertl uses a great deal of interesting living plant material in discussing the various groups of plants.

In the second-year course, Prof. Harold E. White, of the Waltham field station, will begin a series of lectures and demonstrations on "Plant Genetics." Professor White has had considerable experience in plant breeding and has developed at the Waltham station a fine strain of rust-resistant snapdragons.

Arno H. Nehrling, director of the course, wishes it understood that students may register for either one of these courses at this time, or they may take both courses, as they are given the same evening at different hours. In other words, a student may enter the courses at the beginning of any new series of lectures. Further information may be obtained from Raymond E. Smith, 60 Maple avenue, Andover, Mass., or Arno H. Nehrling, director, 300 Massachusetts avenue, Boston, Mass.

BEWARE OF MR. MURPHY.

Two southeastern nurserymen report having been victimized by a man who presented a business card as Frank Murphy, proprietor of Murphy's Nurseries, landscape contractor, main office, 234 West Sixty-fourth street, New York city, telephone Missouri 3-7185. Investigation by The American Nurseryman reveals that the 200 block on West Sixty-fourth street in New York city is a colored tenement district and there is no number 234 on that street. Moreover, there is no telephone exchange called Missouri in New York city.

A large nursery firm at Augusta, Ga., reports that December 14 the man came to the nursery and bought plants, but after they were dug he said he did not have enough money to pay for all. He stated he was doing some work in Columbia, S. C., telling a plausible story, with the result that he took away the plants with the understanding that he would telegraph the money by noon two days later. Of course, the money did not arrive. The automobile in which the man traveled carried New York automobile license Commercial No. 204-444.

A nursery firm at Charlotte, N. C., was taken for \$60 by the same man. Nurserymen should watch for the man, not only to guard against being caught by the same trick, but also to turn the man over to the authorities to be prosecuted.

MEET AT KANSAS CITY.

(Continued from page 8.)

the latter association making the applicant automatically a member of the Kansas group.

Thursday morning, January 9, E. L. Baker, Fort Worth, Tex., outlined a report of the revitalizing committee of the American Association of Nurserymen. Henry Chase, Chase, Ala., discussed "Rebuilding Nursery Land." He related some of the experiences of his firm in planting and combating destructive insects of various kinds.

Ernest Haysler, of Cloverset Flower Farm, Kansas City, put a good deal of humor into his talk on "How to Handle

TREE SEEDS**— All Kinds —**Chinese Elm Seedlings
for spring shipment**The Barteldes Seed Co.**

Since 1867

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TAXUS CUSPIDATA CAPITATAIdeal for hedges, specimens or groups.
Good plants are in demand.
Your order will be filled from a fine
block of stock.Other leaders: Azaleas, Rhododendron
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with full particulars as to quantities,
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Rutherford, N. J.**AZALEAS**The largest block of large Azaleas in
Florida. Thousands of plants ranging
from 5 to 7 feet tall with almost as
much spread. These plants are up to 12
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BOXWOOD**Buxus Suffruticosa**

10 to 12 x 7 to 9 ins.

12 to 15 x 9 to 11 ins.

Let us quote you.

GOLDSBORO NURSERY
Goldsboro, N. C.**PIN OAKS****SUGAR AND NORWAY MAPLES
ILEX CRENATA**

GENERAL LINE PRICED TO SELL

The Howard-Hickory Co.
Hickory, N. C.**PEACH PITS**OUR PITS COMPARE FAVORABLY
WITH THE BEST**HOGANSVILLE NURSERIES**

Hogansville, Georgia

MOUNT ARBOR NURSERIES

Shenandoah, Iowa

Wholesale Headquarters - Since 1875

Write for Trade List

"One of America's Foremost Nurseries"

Potted Roses and Other Plants." Mr. Haysler contended that the nurserymen have not kept pace with the changing trend of business and as a result stock is being sold by department stores, mail-order houses and cut-rate drug stores, much to the detriment of the business. Since no one can prevent these institutions from handling stock, it is up to the nurseryman to save his business by original methods and the presentation of the best stock that he can secure. Customers must be shown the difference between first-class stock and the type that department stores offer. Intelligent persons will realize the difference and be willing to pay for it, Mr. Haysler believes. He said that one of the best methods of presenting stock to the public is to show it when it is blooming. A plantsman will not think of selling a customer a plant that is not in bloom, but a nurseryman will try to sell rosebushes and blooming shrubs without a vestige of bloom.

Mr. Haysler cited the success that he has had by putting on rose shows, roses being his specialty. The public is invited to his flower farm three or four times a year when the roses are at their best. This method has increased his business, and he gets good prices for everything he sells. Mr. Haysler showed a container for plants on which he has secured a patent. This simplifies the handling of stock, he has found. The container is his own device and is manufactured on his farm.

Trade Terms.

Trade terms and credits were briefly discussed by A. F. Lake. Leading firms of the country are tightening on credits, Mr. Lake said, and it is along the line of progress for nurserymen to do the same. "We cannot afford to be ruined by our friends," he added. "The new terms make it so we do not have to go to our banks. Customers pay for what they buy."

As the closing order of business, reports of committees were called for. The committee on nominations, composed of H. B. Chase, chairman; Charles Sonderegger, and A. F. Lake, announced these nominees: E. L. Baker, Fort Worth, Tex., president; C. C. Smith, Charles City, Ia., vice-president, and George W. Holsinger, Kansas City, Kan., secretary-treasurer. In accepting this report the members voted unanimously to have the secretary cast the ballot of the convention for these nominees.

Other committees reporting were composed of the following members: Auditing, R. C. Rickliffe, chairman; J. E. Conrad, and H. C. Crawford; obituary, W. S. Griesa, chairman; George Chandler, and Ernest Worden; resolutions, C. C. Mayhew, chairman; W. J. Smart, and Lloyd Moffatt; vigilance, permanent, E. H. Smith, chairman; Paul Stark, and H. B. Chase, and trade terms, permanent, Vernon Marshall, chairman; A. E. Willis, and A. E. Weston.

The executive committee for 1936 is as follows: One-year term, H. S. Crawford, Ottawa, Kan., and Charles Williams, Kansas City, Mo.; two-year term, A. J. Bruce, Des Moines, Ia., and C. G. Marshall, Arlington, Neb.; three-year term, E. H. Smith, York, Neb., and R. M. Gwynn, Shenandoah, Ia.

The 1937 meeting will be held in Kansas City, Mo., January 9 to 11.

**RHODODENDRONS
HEMLOCKS AZALEAS
KALMIA latifolia
ABIES Fraseri**

and other native plants both nursery grown and collected.

Price list mailed on request.

ANTHONY LAKE NURSERY
Pineola, N. C.**Certified Raspberry Plants****200,000 NEWBURGH****25,000 EARLY JUNE**Latham, Chief, Herbert, Cuthbert, Viking,
St. Regis, Columbian, etc.

Quality stock. Attractively priced.

BERT BAKER, Hoosick Falls, N. Y.**Latham and Chief
RASPBERRIES**

"Mosaic-Free" Plants - Good Roots

ANDREWS NURSERY

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BLACKBERRIESWe have a surplus of 100,000 Eldorado
Blackberry root cutting plants this
season which we are offering at exceptionally
low prices. Get our prices now.

Strawberry Plants

A. W. KriegerBridgman
Michigan**LINING OUT STOCK**Evergreens, Shrubs,
Trees, Vines

Write for List

HILL TOP NURSERIES

Casttown, Ohio

Small Fruit Plants

Evergreens — Shrubs

Lining-out Stock

Send for Complete Trade List

SCARFF'S NURSERIES

New Carlisle, O.

HARDY PERENNIALSSend for Toole's Trade List of Twenty-
five New, Unusual or Little Known
Perennials and Rock Garden Plants.Potted plants at prices that make
a trial planting inexpensive.**W. A. TOOLE, of Carry-nee-Dule**
Baraboo, Wis.**Your Profits are
in the Newer Things**

Ask for Our List of Specialties

The Cottage Gardens
Lansing, Michigan

New Books and Bulletins

Reviews of Recent Horticultural Publications

SHADE TREE ENEMIES.

A recent valuable addition to the working library of the arborist, nurseryman and landscape architect is "Insect Enemies of Shade Trees," by Glenn W. Herrick, professor of economic entomology at Cornell University, Ithaca, N. Y. This book discusses primarily the problem of preservation of shade trees from insect pests, but it treats as well the related question of the comparative utility of different trees in point of aesthetic value, hardihood, adaptability and immunity to injury and disease. It also describes accepted methods of fertilizing shade trees. The volume is issued by the Comstock Publishing Co.

The first chapter of the book deals with the value of shade trees and general methods of protecting them from insect attack. The author considers the value of a shade tree to depend upon (1) the species, (2) its location, (3) its condition and (4) the historical or sentimental value attached to it. The factors tending to reduce shade tree values are discussed, as well as Howard's and Furnow's ratings as to the susceptibility of shade trees to insect pests.

The second chapter deals with materials and apparatus for the control of tree and shrub insects. In this section stomach poisons, contact insecticides and miscellaneous materials are dealt with, the uses and limitations of the products being given.

In chapter three, the discussion concerns the treatment of weakened trees, including pruning, wound treatment, cavity work, bracing, grading and filling, gas injuries and fertilizing.

The twenty-seven chapters that follow are devoted to a discussion of the insect pests of various tree species, as well as some shrubs. The descriptions, both of the pest and its injury, are clearly written, and control recommendations are given for each. A complete system of cross-referencing increases the utility of the book.

A concise, easy style marks the text. The splendid illustrations, consisting of reproductions of photographs and line drawings, number 350, many of them appearing for the first time in this work. The paper is high-grade glossy stock, and the green cloth binding is durable. There are 400 pages of text and seventeen of index. The book sells for \$5 per copy.

"TREE FLOWERS."

Familiarity with the flowers of trees is something possessed by few outside the ranks of habitual observers of nature. To many persons, therefore, a new field of botanical investigation will be opened by perusal of a recent horticultural work, "Tree Flowers of Forest, Park and Street," written by Walter E. Rogers and published privately. The author is professor of botany at Lawrence College, Appleton, Wis., and has given to a technical topic a treatment that is certain to be understood and enjoyed by every reader with or without wide training in the field.

Besides calling attention to the exist-

ence of tree flowers and portraying some of their characteristics, the author seeks to stimulate interest in the winter appearance of trees. Many persons, he believes, lack an appreciation of trees as components of the winter landscape, when they reveal what he calls their artistic anatomy. Thus, the reader of this book has a text to guide year-around observations.

Because many tree flowers are small and unobtrusive, the author devised a special technique by means of which such objects could be photographed six to twelve times their natural dimensions. The image obtained by this method was then still further enlarged in the process of making a half-tone, so that the final magnification for some of the plates is twenty to thirty times the original size. The folios are 8x10 inches. Strange, though interesting and often beautiful, are the structures reproduced, and the collection of these illustrations is the outstanding feature of the book.

Thirty-three families of trees are represented in the illustrations, which besides the half-tones include line drawing silhouettes, by Olga A. Smith, instructor of botany at Lawrence College, who also provides marginal drawings, showing in some cases the actual size of the flowers portrayed or some characteristic features of the tree.

The book is intended to be chiefly pictorial. Text matter has been included only to explain plates, to provide a background of more or less familiar facts or to give certain relevant or accessory facts of interest. There has been no attempt to include anything new in the text, it is stated in the foreword. The scientific names are chiefly those of Gray's Manual; readers are referred to Sargent's "Manual of the Trees of North America" and other botanies for technical descriptions.

Must Have

Small Apple, Pear, Plum, Cherry—
Good Clean Trees for Parcel Post Shipments.

What have you?

THE E. H. BURSON NURSERY
Clifton, N. Y.

A survey of the book shows 121 text pages, 121 full-page half-tones, 121 full-page silhouettes, 314 marginal drawings, a common name index and a scientific name index. Blue homespun, silver-embossed, forms the cover. The price of the volume, postpaid in this country, is \$7.50.

BULLETINS RECEIVED.

"Disinfesting Soils by Electric Pasteurization," by A. G. Newhall and M. W. Nixon. This is bulletin No. 636 of the Cornell University agricultural experiment station, Ithaca, N. Y., providing a 20-page report of intensive studies on the subject. The advantages of electric heat over steam for treating soil are told; two types of sterilizers are described, and the points in effective pasteurizing brought out. Costs of operation and construction are given.

"Sulphuric Acid for the Control of Weeds," by W. E. Ball and O. C. French, of the University of California agricultural experiment station, Berkeley, Cal. The bulletin is illustrated and contains twenty-eight pages of text and introductory matter. Described are the efforts over a two-year period to develop a successful sprayer for the application of dilute sulphuric acid to fields. Concentrations, costs, equipment, crop gains, etc., are discussed.

"All About the New Roses," a splendidly prepared booklet developed by the Jackson & Perkins Co., Newark, N. Y., to aid in the promotion of sales of the firm's rose introductions. Illustrated effectively with color plates, the booklet contains descriptive notes of the various varieties, readable notes on the growing and use of roses, with diagrams, and a toast to the new roses, by J. H. Nicolas, the firm's well known hybridizer.

WE WILL BUY

Lycium Chinense, Lonicera sempervirens, Ampelopsis Englemanni, Ampelopsis quinquefolia, all 2-yr. No. 1; Benzoin, Amelanchier, Amorpha, Aronia, Clethra; Crataegus, all varieties; Ginkgo; Rosa setigera, Wichuraiana, blanda, carolina, humilis, rugosa; Rhus aromatica; Mt. Ash; Camperdownii and Wheatley Elm; Flowering Crabs; Japanese Cherry; Oaks, all varieties; Koster's Blue Spruce, all sizes; Taxus, all varieties. Send your list of sizes and prices now.

Pfund-Bell Nursery Co.
Elmhurst, Illinois

Looking for Stock?

If you have difficulty in locating a source of supply for any particular size or variety of stock, the advertising columns of The American Nurseryman can help you. Insert an advertisement of "Stock Wanted" and list the sizes and varieties you seek. Those able to supply your needs will be prompt to respond.

The cost is low—only \$2.25 per column inch. Save time and effort by listing your wants in the next issue.

AMERICAN NURSERYMAN, 508 S. Dearborn St., Chicago

INCREASED EXPORTS, IMPORTS.

Under the twenty-four foreign plant quarantines and regulatory orders now in force to keep new insect pests and plant diseases out of the country, the United States Department of Agriculture reports an increase in the plants and plant products imported during the fiscal year ending June 30, 1935, over the preceding fiscal year. Shipments of plants and plant products inspected and entered under permit totaled 40,692. The increase was noticeable in plants and plant products intended for propagation and especially restricted as to entry and release.

At the maritime ports, 30,130 ships from foreign countries, from Hawaii and from Puerto Rico were inspected. Prohibited or restricted plant material was found on 11,820 of them. At the Mexican border ports having rail communication with Mexico 28,422 freight cars entered. All of these cars were inspected prior to their entry and 6,801 were fumigated as a condition of entry. Inspection of 3,150 airplanes from foreign countries and from Hawaii resulted in 918 interceptions of prohibited and restricted plant material on 537 planes. A total of 39,035 interceptions of prohibited and 15,356 interceptions of restricted plant material were made at all ports of entry.

The examination of material imported under permits and of material reaching points of entry without permits resulted in 44,754 interceptions of insects and plant diseases. The insects belonged to 1,680 recognized species and to unrecognized species distributed among 1,488 genera and families. Fungi and bacteria belonging to 280 known species, plant-parasitic nematodes belonging to fourteen recognized species and many diseases caused by fungi, bacteria, nematodes or other agents were also included in the interceptions.

PRESIDENT CLAVEY'S ADDRESS.

(Concluded from page 13.)

that we had tremendous stocks to draw from during the past few years, I am afraid the nursery industry would have been a sorrowful picture. The average nurseryman has devoted his time and study to propagating and growing of fine plants, which of course is important, but I am sure he has realized, during the past few years, the importance of merchandising his products and will give more thought in the future to this part of his business. We must learn to merchandise what we grow, or grow what we are capable of merchandising. We have barely scratched the surface in merchandising our products. The possibilities for the nursery industry seem to me to be unlimited.

"With the increase of construction of new homes, the federal housing projects, state and federal highway plantings, various parks and the remodeling of old plantings, I am sure that 1936 will prove profitable to the ambitious nurseryman."

WITH 5,000 shares, no par value, the Davison Avenue Greenhouses, Detroit, Mich., have been incorporated to do a nursery business, the papers being filed by Arthur Y. Winer, 711 Fidelity building, Detroit.

1936 CATALOGUE READY!

Our Complete
32-page Catalogue
of
Nursery and
Agricultural
SUPPLIES

Use it for quick service
and lowest prices on all
NURSERY SUPPLIES

Mention **AMERICAN NURSERYMAN** in writing for your **FREE** copy.

American Florists' Supply Co.

Importers and Distributors

1335 W. Randolph St., CHICAGO

Phone: MOORE 9121

**RETURNS STOLEN CASH, STAMPS.**

Without a word of explanation, the Cole Nursery Co., Painesville, O., received by mail, January 4, an envelope containing \$50 in cash and \$14 in stamps. The night of January 2, some one, breaking a window in the nursery office, had entered the room and taken \$50 in cash and \$14 in stamps.

A LICENSE to operate a nursery at 2017 West Jefferson street, Los Angeles, Cal., was recently given T. Watanabe.

WITH 1,000 shares, no par, M. L. Rogers, L. A. Irwin and M. A. Desmond, Wilmington, Del., recently received a charter to do a general farming and nursery business as the Koster Co.

AT LOCKHART, Tex., the Sunshine Floral Co. has sold its floral business to the Jones Floral Co., Lockhart, the Sunshine Floral Co. now devoting its attention solely to nursery stock.

THE minister of agriculture in Greece has issued an order making anyone in possession of a Christmas tree liable to prosecution. This is done to prevent loss of trees in Greece, where reforestation is an urgent problem.

UNDER the guidance of Harry Franklin Baker, Minneapolis, Minn., new president of the Twin City Nurserymen's Association, a meeting of the organization was held at the Twin Cities the evening of January 2. The meeting was well attended by members and by visitors from various parts of the state.

WITH the temperature approaching zero, the office of the Hillsdale Nursery, Castleton, near Indianapolis, Ind., was destroyed by fire of undetermined origin December 21, the loss being estimated by the manager, Alex Tuschinsky, at \$1,500. Water to extinguish the blaze had to be taken from a swimming pool 500 feet from the burning building.

DREER'S

New Complete

Wholesale Catalogue

for Nurserymen and Florists

Every nurseryman and florist should have a copy of this 96-page book for quick reference as to the finest Seeds, Bulbs, Plants, Palms, Ferns, Roses, etc. Contains all the latest novelties and a complete list of standard varieties.

Write for your free copy today

HENRY A. DREER

Philadelphia, Pa.

SEED

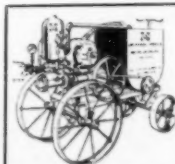
Caragana arborescens

\$1.75 lb., f. o. b. N. Y.

Write for complete free seed catalogue

HERBST BROTHERS

92 Warren Street New York, N. Y.



Write for
Complete Catalogue of
F. E. Myers & Bro. Co.
Power Spray Pumps

Schramm's Greenhouse
Supply Co.
Park Ridge, Ill.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in The American Nurseryman.]

A. M. Grootendorst, Benton Harbor, Mich.—Wholesale price list of gladioli, hardy lilies and perennials. The large gladioli list is arranged alphabetically and is supplemented by four collection offers. More than twenty-five hardy chrysanthemums are listed, along with about fifteen new varieties. Packaged gladioli bulbs for counter trade are featured.

Hillenmeyer Nurseries, Lexington, Ky.—Catalogue No. 94, describing trees for shade and shelter, flowering shrubs, evergreens, hardy plants, vines, fruits, etc. This is a general retail list, finely illustrated and clearly printed, with a good array of choice material included. Color work is used to advantage on several inside pages, as well as on the cover.

Dixie Rose Nursery, Tyler, Tex.—Catalogue No. 29 of the firm, illustrated almost completely in colors and describing an unusually extensive collection of roses. New and patented roses are well represented. The front cover space is devoted to the new rose, Texas Centennial, being distributed by the firm this year, while Texas Gold, another Hoover sport, is illustrated on the back cover. There is a convenient index to the many varieties listed.

Milton Nursery Co., Milton, Ore.—A catalogue of general nursery stock, including evergreens, deciduous shrubs, ornamental trees, roses, peonies and other perennials and fruits. An effective evergreen planting is used as the cover decoration, and other landscaping suggestions are given elsewhere. The foreword states that the firm was founded in 1878 and now operates about 325 acres.

California Nursery Co., Niles, Cal.—An exceptionally interesting nursery catalogue, consisting of eighty pages and a cover. Several of the early pages are devoted to a history of the firm, which is 71 years old, and to describing the extent of the operations carried on and the various establishments operated. This feature is copiously illustrated. Plants for every conceivable garden need appear in the succeeding lists, and there is clear effort to feature novelty and new material. Much of the stock, of course, is for regions of mild climate, but harder material is also represented. About a dozen pages at the center of the catalogue are devoted to roses. Other large sections are devoted to evergreens and fruits, both important specialties.

Cronamore Alpine Nurseries, Inc., Greens Farms, Conn.—A catalogue that anyone interested in rock garden and alpine plants will wish to peruse. The collection represented is an important one, remarkable for many fine and rare items. Among a few of the specialties are dwarf asters, hardy evergreen azaleas believed to be offered for the first time, dwarf evergreens and shrubs for rock gardens, plants for wall gardens, collections for table gardens and a vast quantity of general material that is not likely to be found in many other trade lists. Photographs of rare plants are reproduced, along with views of the firm's own rock garden.

Glen St. Mary Nurseries Co., Glen St. Mary, Fla.—Catalogue of nursery stock with a foreword urging the brightening up of home grounds. Roses are given first place, and among them Australian varieties receive special mention. A fine group of flowering items marks the shrub section. There are also evergreens, palms and rock garden plants. Azaleas have splendid presentation, as do camellias, with a special offering of seedlings in the latter group. Fruits for southern gardens are portrayed in fine color plates. The front cover displays Camellia Chandleri elegans.

D. Hill Nursery Co., Dundee, Ill.—Wholesale catalogue of evergreens. Lining-out stock is given first place as being of prime importance this season; scarcity of first-class stock is mentioned. Firs, junipers, spruces, pines, yews and arbor-vitae are represented. Especially large is the juniper section. Descriptive notes are valuable and instructive.

Albert Treppens & Co., Berlin, Germany.—Annual catalogue of flower seeds, vegetable seeds and sundries, consisting of 144 pages, illustrated, printed in German. *Primula malacoides* compacta grandiflora decorates the cover.

La Florida, Bilbao, Spain.—A catalogue devoted entirely to rose offers, printed in Spanish. The cover shows blooms of Rose Feu Pernet-Ducher.

CLASSIFIED ADVERTISING

Juniperus Scopulorum, Montana collected; all blue (ripe) berries, 75c per lb.
Native Evergreens, Missoula, Mont.

The Lissadell list of 1935 harvested alpine and herbaceous seeds has now been posted to customers. Further copies are available for those who write.

Manager, Lissadell, Sligo, Irish Free State.

Nursery Tools, Leonard Full-strapped Spades, Kende Knives and Shears, Budding and Grafting Supplies. Free 16-page wholesale catalogue illustrates 600 tools.

A. M. Leonard & Son, Piqua, Ohio.

Wayzata Everbearing Strawberry. Attention, nurserymen! Write for my wholesale prices on certified Wayzata plant stock. Place your order early, as I have only a limited amount of these plants to offer at wholesale prices.
Fred W. Braden, Wayzata, Minn.

William Borsch & Son, Inc., Maplewood, Ore.—Retail descriptive catalogue of hardy native and imported alpine and perennials. This firm's catalogue is an annual event to those interested in hardy material, for it regularly contains a host of new and unusual plants, bulbs and shrubs to attract even the specialist. Page 1 itemizes new natives and items from foreign countries, showing additions to the lists of daphnes, ericas, ferns, fritillarias, phloxes, primulas and many other species. Other unusual items noted in the list are pyxidantheras, dwarf rhododendrons, kalmiopsis, lewisias and Polygala Chamebuxus. Saxifragas and sempervivums appear in extensive variety. *Primula veris* Queen of Heaven makes an effective cover illustration.

Grunwald & Co., Wiener-Neustadt, Austria.—Catalogue of tree seeds, including evergreen and coniferous varieties, broad-leaved varieties, eucalypts and fruits. The catalogue is printed in English and contains a foreword describing the care with which the seeds are collected and handled.

House of Gurney, Inc., Yankton, S. D.—Advance wholesale price list of ornamentals, perennials, evergreens, forest and shade trees, seedlings, etc.

E. F. Weaver Nurseries & Greenhouses, Wichita, Kan.—Wholesale descriptive list of greenhouse plants and cuttings, hardy perennials, ornamental grasses, lining-out nursery stock and roses. As usual, there is an extensive list of coleuses, of which it is said about eighty named varieties are grown by the firm.

Wayside Gardens Co., Mentor, O.—Annual catalogue of seeds, bulbs and sundries, consisting of sixty-four pages and a cover displaying a fresh all-over floral design. Featured are Sutton's flower seeds, chiefly annual and biennial items, for which the Ohio firm is distributor in this country. In addition there is a large selection of perennial and rock plant seeds, all gathered at the firm's gardens from selected stock plants. A splendid selection of herb seeds is noted. Lilies, gladioli and dahlias are well represented among the bulbous items. The printing is done in duotone green ink, with the addition of many pages of color engravings that are exceedingly effective.

E. M. Kellogg Co., Three Rivers, Mich.—1936 "Garden Beauty Book." Again this retail mail-order catalogue exhibits special efforts directed toward selecting and presenting novelties. Azaleum is given considerable prominence. New varieties of mums created by Elmer D. Smith also receive a special position at the front. Color pages are used throughout the catalogue, which is also freely illustrated with half-tones. Special collections are numerous.

M. G. Tyler, Portland, Ore.—Descriptive price list of Mastick dahlia creations, with three 1936 varieties heading a large general list. Miniatures and pompons are well represented.

WANTED

Used Power Sprayer

What have you?

Waukegan Nurseries
Waukegan, Ill.

HELP WANTED

Man to take charge of landscape planting and sales, and man as grower and supervisor in general nursery.

Kansas Evergreen Nurseries
Topeka, Kansas

HELP WANTED

Nurseryman with commercial nursery management and sales experience; age 30 to 45; nursery 16 miles east of Cleveland; 2 greenhouses and 170 acres of land; salary and share in profits; college man preferred; unexcelled opportunity for right man. Address No. 27, care American Nurseryman, 308 S. Dearborn St., Chicago, Ill.

HELP WANTED

Propagator; experienced nurseryman who can propagate all lines and take full charge of field work; prefer older man; good pay and chance to become partner; give full particulars by letter; start February 1.

CHICAGO NURSERY CO.
32 W. Randolph St., Room 312 Chicago, Ill.

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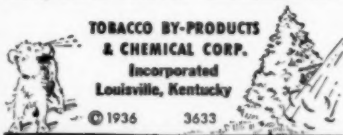
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And they'll thank you too—for telling them how a little "Black Leaf 40" sprayed on shrubbery and evergreens keeps dogs away. They just don't like the odor.

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A Guide to Plant Propagation, Culture and Handling

By Alex Laurie and L. C. Chadwick

Department of Horticulture, Ohio State University

From their own experience in commercial nursery practice, from results of experiment and research, and from their wide acquaintance with modern nursery methods, Professors Laurie and Chadwick have written this complete manual covering every branch of nursery practice.

The book provides complete reference for everyone concerned with the propagation of plants, giving full descriptions of all methods and many tables which indicate at a glance the treatment to give any particular plant. It also discusses fully and completely tools, tillage, planting, transplanting, digging, grading, labeling, pest control, soils, fertilizers, storage, advertising, selling, and every other phase of nursery management.

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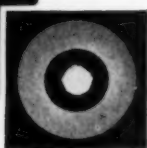


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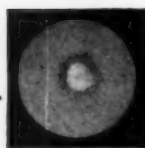
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EVERYWHERE this remarkable NURSERYMAN'S TAPE has been acclaimed for exceptional efficiency in reducing root knots and malformations among piece-root grafts. Improvements in stand, ranging from 65% to 75%, have richly repaid its users.

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